

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original): A module having inductor-free circuitry for controlling voltage imbalances between a pair of capacitors connected in a series arrangement, comprising:

a first terminal configured for connection to a positive plate of the first capacitor;

a second terminal configured for connection to a negative plate of the first capacitor and to a positive plate of the second capacitor;

a third terminal configured for connection to a negative plate of the second capacitor; and

an active element integrated within the inductor-free circuitry between the first, second, and third terminals and adapted to substantially balance the voltage imbalances between the pair of capacitors, the active element having power connections to the first and third terminals.

2. (original): The module of claim 1, wherein the active element is an op amp, the op amp having an input, an output, and a feedback loop, the input being connected to two voltage dividing resistors.

3. (original): The module of claim 2, wherein the output is connected to the second terminal.

4. (original): The module of claim 3, wherein the output is connected to the second terminal through a current limiting resistor.

5. (original): The module of claim 2, wherein the feedback loop includes a feedback resistor.

6. (original): The module of claim 1, wherein the active element is a switched voltage converter.

7. (original): The module of claim 6, wherein the switched voltage converter incorporates a flying capacitor.

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8. (original): The module of claim 1, wherein at least one of the terminals is further configured for connection to a second module having inductor-free circuitry for controlling voltage imbalances between a second pair of capacitors connected in the series arrangement.

9. (original): The module of claim 8, wherein the first and second modules' inductor-free circuitries are substantially identical.

10. (original): The module of claim 8 wherein the first and second modules' circuitry overlap upon connection to the second module.

11. (original): The module of claim 10, wherein the first and second module's circuitry overlap at one of the terminals.

12. (original): The module of claim 10, wherein the first and second modules' circuitry overlap across a common capacitor shared by the two pairs of capacitors.

13-19. (canceled)

20. (original): A method for controlling voltage imbalances between a pair of capacitors connected in a series arrangement, comprising:

forming a first terminal configured for connection to a positive plate of the first capacitor;

forming a second terminal configured for connection to a negative plate of the first capacitor and to a positive plate of the second capacitor;

forming a third terminal configured for connection to a negative plate of the second capacitor; and

integrating an active element within an inductor-free circuitry between the first, second, and third terminals such that the active element substantially balances the voltage imbalances between the pair of capacitors, the active element having power connections to the first and third terminals.

21. (new): The method of claim 20, wherein the active element is an op amp, the op amp having an input, an output, and a feedback loop, the method comprising:

connecting the input to two voltage dividing resistors.

22. (new): The method of claim 21, further comprising:
connecting the output to the second terminal.
23. (new): The method of claim 22, wherein the output is connected to the second terminal through a current limiting resistor.
24. (new): The method of claim 21, wherein the feedback loop includes a feedback resistor.
25. (new): The method of claim 20, wherein the active element is a switched voltage converter.
26. (new): The method of claim 25, wherein the switched voltage converter incorporates a flying capacitor.
27. (new): The method of claim 20, comprising:
connecting at least one of the terminals to a second module having inductor-free circuitry for controlling voltage imbalances between a second pair of capacitors connected in the series arrangement.
28. (new): The method of claim 27, wherein the first and second modules are substantially identical.
29. (new): The method of claim 27, wherein connecting at least one of the terminals to the second module comprises:
overlapping the first and second modules upon connection to the second module.
30. (new): The method of claim 29, wherein connecting at least one of the terminals to the second module comprises:
overlapping the first and second modules at one of the terminals.
31. (new): The method of claim 29, wherein connecting at least one of the terminals to the second module comprises:

overlapping the first and second modules across a common capacitor shared by the two pairs of capacitors.

32 (new): The module of claim 1, wherein the power connections are 1) between a V+ terminal of the active element and the first terminal; and 2) between a V- terminal of the active element and the third terminal.